

REMARKS

This Amendment is fully responsive to the non-final Office Action dated March 5, 2010, issued in connection with the above-identified application. Claims 1-17 are pending in the present application. With this Amendment, claims 1 and 7-12 have been amended. No new matter has been introduced by the amendments made to the claims. Favorable reconsideration is respectfully requested.

In the Office Action, claims 10 and 11 have been rejected under 35 U.S.C. 101 as being directed to non-statutory subject matter. Specifically, the Examiner alleges that the claims are directed to programs that are not stored on “non-transitory” computer-readable mediums. Therefore, the computer-readable mediums can be interpreted as being signals, which are non-statutory. Accordingly, the Applicants have been amended claims 10 and 11 to indicate that the programs are stored on “non-transitory” computer-readable recording mediums, as suggested by the Examiner. Withdrawal of the rejection to claims 10 and 11 under 35 U.S.C. 101 is respectfully requested.

In the Office Action, claims 1, 8 and 10 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse (U.S. Publication No. 2002/0183026, hereafter “Naruse”) in view of Markman (U.S. Publication No. 2003/022966, hereafter “Markman”), Delavega (U.S. Publication No. 2005/0034158, hereafter “Delavega”) and Zhu et al. (U.S. Publication No. 2008/0183767, hereafter “Zhu”).

The Applicants have amended independent claims 1 and 8 to more clearly distinguish the present invention from the cited prior art. Independent claim 1 (as amended) recites the following features:

“[a] content reproduction device that performs streaming reproduction of a content, the device comprising:

a plurality of communication units configured to receive pieces of segmented data of a content transmitted from a content transmission device over a communication path, a part of the pieces of the segmented data of the content being received by one of said plurality of communication units and another part of the pieces of the segmented data of the content being received by another one of said plurality of communication units;

a content reconstruction unit having a buffer in which the pieces of segmented data received by said plurality of communication units is temporarily accumulated, and configured to

reconstruct the pieces of segmented data accumulated in the buffer into the content;

a reproduction unit configured to extract the content from the buffer at a predetermined bit rate and to reproduce the content at the predetermined bit rate, the content having been reconstructed by said content reconstruction unit; and

a communication control unit configured to:

calculate, for every predetermined time, target transmission speeds to be assigned for content reception by causing the target transmission speeds to associate respectively with said plurality of communication units, based on free space in the buffer and the bit rate; and

transmit a first request signal indicating the calculated target transmission speeds corresponding to said plurality of communication units to the content transmission device via one of said plurality of communication units,

wherein the pieces of segmented data each includes a counter indicating an order of the segmentation performed by said content transmission device, and

said content reconstruction unit is configured to reconstruct the content by extracting the pieces of segmented data accumulated in the buffer in the order of values indicated by said respective counters.” (Emphasis added).

The features emphasized above in independent claim 1 are similarly recited in independent claim 8 (as amended). Additionally, the features emphasized above in independent claim 1 (and similarly recited in independent claim 8) are fully supported by the Applicants' disclosure (see e.g. ¶[0132]).

The present invention (as recited in independent claims 1 and 8) is distinguishable from the cited prior art in that (i) one of the plurality of communication units receives a part of the pieces of the segmented data, and (ii) another one of the plurality of communication units receives another part of the pieces of the segmented data. The present invention (as recited in independent claims 1 and 8) effectively achieves streaming reproduction of the content even if the maximum rate of a transmission speed of one of the communication units is below a rate of streaming content.

In the Office Action, although the Examiner relies on Naruse in view of Markman, Delavega and Zhu for disclosing or suggesting all the features recited in independent claims 1 and 8, the Examiner relies on Markman for disclosing a plurality of communication units that receive pieces of segmented data and on Zhu for disclosing or suggesting pieces of segmented

data that include counters. However, the Applicants assert that none of the cited prior art discloses or suggests the features now recited in independent claims 1 and 8 (as amended).

Markman discloses a Media Center located at a user's site that receives media signals and programming information using a modem. However, nothing in Markman discloses or suggests a plurality of communication units configured to receive pieces of segmented data of a content transmitted from a content transmission device over a communication path, wherein a part of the pieces of the segmented data of the content is received by one of the plurality of communication units and another part of the pieces of the segmented data of the content is received by another one of the plurality of communication units, as now recited in independent claims 1 and 8 (as amended).

Additionally, Zhu discloses that a stream is transmitted from a data source to a device including a sequence of segment IDs and that the device uses the segment IDs to store the segments in a buffer, which is used for reconstruction of the segments (see ¶[0021], ¶[0022], and ¶[0041]).

However, the segment IDs disclosed in Zhu represent areas of a memory (see ¶[0025]), and thus are different from a counter indicating an order of the segmentation, as recited in independent claims 1 and 8. In other words, the segment IDs disclosed in Zhu indicate locations for storing data, not a counter indicating an order of the segmentation.

Moreover, similar to Markman, Zhu fails to disclose or suggest a plurality of communication units configured to receive pieces of segmented data of a content transmitted from a content transmission device over a communication path, wherein a part of the pieces of the segmented data of the content is received by one of the plurality of communication units and another part of the pieces of the segmented data of the content is received by another one of the plurality of communication units, as now recited in independent claims 1 and 8 (as amended).

As noted above, Naruse and Delvaga are not relied on for disclosing or suggesting the features of the present invention emphasized and discussed above. Accordingly, no combination of Naruse, Markman, Delavega and Zhu would result in, or otherwise render obvious, the features recited in independent claims 1 and 8 (as amended). Likewise, no combination of Naruse, Markman, Delavega and Zhu would result in, or otherwise render obvious, claim 10 at least by virtue of its dependency from independent claim 8.

In the Office Action, claims 2-4, 7, 9 and 11 have been rejected under 35 U.S.C. 103(a) as

being unpatentable over Naruse in view of Markman, Delavega and Zhu, and further in view of Ji et al. (U.S. Publication No. 2005/0043999, hereafter “Ji”).

Claims 2-4 depend from independent claim 1. As noted above, no combination of Naruse, Markman, Delavega and Zhu would result in, or otherwise render obvious, independent claim 1. Additionally, Ji fails to overcome the deficiencies noted above in Naruse, Markman, Delavega and Zhu. Accordingly, no combination of Naruse, Markman, Delavega and Zhu with Ji would result in, or otherwise render obvious, claims 2-4 at least by virtue of their dependencies from independent claim 1.

Independent claims 7 and 9 have been amended similar to that of independent claim 1. That is, independent claim 7 (as amended) recites the following:

“[a] content transmission device that transmits a content over a communication path, the device comprising:

a content accumulation unit configured to accumulate a content;

a communication unit configured to communicate, over the communication path, with a content reproduction device that includes a plurality of communication units with different addresses; and

a content segmentation unit configured to:

determine amounts of content data to be transmitted based on target transmission speeds of the respective addresses every time a first request signal indicating target transmission speeds of the respective addresses is received, the amounts of content data to be transmitted being determined for the respective addresses;

segment the content accumulated in said content accumulation unit into pieces of segmented data; and

transmit the pieces of segmented data of the content addressed to the addresses via said communication unit such that a part of the pieces of the segmented data of the content is received by one of said plurality of communication units and another part of the pieces of the segmented data of the content is received by another one of said plurality of communication units, and the pieces of segmented data each includes a counter indicating an order of the segmentation performed,

wherein the plurality of communication units receive a part of the pieces of the segmented data of the content obtained by segmenting data of a single content, and the plurality

of communication units reconstruct the segmented data based on the order indicated by the counter.” (Emphasis added).

The features emphasized above in independent claim 7 are similarly recited in independent claim 9 (as amended). Additionally, the features emphasized above in independent claim 7 (and similarly recited in independent claim 9) are fully supported by the Applicants’ disclosure (see ¶[0132]).

The present invention (as recited in independent claims 7 and 9) is distinguishable from the cited prior art in that a content transmission device (or step) transmits pieces of segmented data to a plurality of communication units such that (i) one of the plurality of communication units receives a part of the pieces of the segmented data, and (ii) another one of the plurality of communication units receives another part of the pieces of the segmented data. The present invention (as recited in independent claims 7 and 9) effectively achieves streaming reproduction of the content even if the maximum rate of a transmission speed of one of the communication units is below a rate of streaming content.

As noted above, independent claims 7 and 9 have been amended to include similar features to that of independent claim 1 (as amended). Therefore, independent claims 7 and 9 are distinguishable from the cited prior art for similar reasons noted above for independent claim 1.

Accordingly, no combination of Naruse, Markman, Delavega and Zhu would result in, or otherwise render obvious, independent claims 7 and 9 (as amended). Additionally, Ji fails to overcome the deficiencies noted above in Naruse, Markman, Delavega and Zhu. Accordingly, no combination of Naruse, Markman, Delavega and Zhu with Ji would result in, or otherwise render obvious, independent claims 7 and 9. Likewise, no combination of Naruse, Markman, Delavega and Zhu with Ji would result in, or otherwise render obvious, claim 11 at least by virtue of its dependency from independent claim 9.

In the Office Action, claims 5 and 6 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse, Markman, Delavega and Zhu, and further in view of Chinomi et al. (U.S. Patent No. 7,228,137, hereafter “Chinomi”).

Claims 5 and 6 depend from independent claim 1. As noted above, no combination of Naruse, Markman, Delavega and Zhu would result in, or otherwise render obvious, independent claim 1. Additionally, Chinomi fails to overcome the deficiencies noted above in Naruse, Markman, Delavega and Zhu. Accordingly, no combination of Naruse, Markman, Delavega and

Zhu with Chinomi would result in, or otherwise render obvious, claims 5 and 6 at least by virtue of their dependencies from independent claim 1.

In the Office Action, claims 12, 14 and 15 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse in view of Markman, Delavega and Ji, and further in view of Uhlik (U.S. Publication No. 2007/0112948, hereafter “Uhlik”); claim 13 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Naurse in view of Markman, Delavega, Ji and Uhlik, and further in view of Zhu; and claims 16 and 17 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Naruse, Markman, Delavega, Ji and Uhlik, and further in view of Chinomi.

Independent claim 12 has been amended similar to that of independent claim 1 to more clearly distinguish the present invention from the cited prior art. Specifically, independent claim 12 (as amended) recites the following features:

“[a] content reproduction device that performs streaming reproduction of a content, the device comprising:

a plurality of communication units configured to receive pieces of segmented data of a content transmitted from a content transmission device over a communication path, a part of the pieces of the segmented data of the content being received by one of said plurality of communication units and another part of the pieces of the segmented data of the content being received by another one of said plurality of communication units;

a content reconstruction unit having a buffer in which the pieces of segmented data received by said plurality of communication units is temporarily accumulated, and configured to reconstruct the pieces of segmented data accumulated in the buffer into the content;

a reproduction unit configured to extract the content from the buffer at a predetermined bit rate and to reproduce the content at the predetermined bit rate, the content having been reconstructed by said content reconstruction unit;

a communication fee accumulation unit configured to accumulate, in advance, communication fees of the respective communication units; and

a communication control unit configured to:

determine a use order of said plurality of communication units based on the communication fees accumulated in the communication fee accumulation unit,

calculate, for every predetermined time, target transmission speeds to be assigned for

content reception by causing the target transmission speeds to associate respectively with said plurality of communication units, based on the determined use order, free space in the buffer and the bit rate; and

transmit a first request signal indicating the calculated target transmission speeds corresponding to said plurality of communication units to the content transmission device via one of said plurality of communication units.” (Emphasis added).

The features emphasized above in independent claim 12 are fully supported by the Applicants’ disclosure (see ¶[0132]).

The present invention (as recited in independent claim 12) is distinguishable from the cited prior art in that (i) one of the plurality of communication units receives a part of the pieces of the segmented data, and (ii) another one of the plurality of communication units receives another part of the pieces of the segmented data. The present invention (as recited in independent claim 12) effectively achieves streaming reproduction of the content even if the maximum rate of a transmission speed of one of the communication units is below a rate of streaming content.

As noted above, independent claim 12 has been amended to include similar features to that of independent claim 1 (as amended). Therefore, independent claim 12 is distinguishable from the cited prior art for similar reasons noted above for independent claim 1.

Accordingly, no combination of Naruse, Markman and Delavega would result in, or otherwise render obvious, the features of independent claim 1. Additionally, Ji and Uhlik fail to overcome the deficiencies noted above in Naruse, Markman and Delavega. Accordingly, no combination of Naruse, Markman and Delavega with Ji and Uhlik would result in, or otherwise render obvious, independent claim 12.

Claims 13-17 depend from independent claim 12. As noted above, Naruse, Markman, Delavega, Ji and Uhlik fail to disclose or suggest all the features recited in independent claim 12. Additionally, Zhu and Chinomi fail to overcome the deficiencies in Naruse, Markman, Delavega, Ji and Uhlik. Accordingly, no combination of Naruse, Markman, Delavega Ji and Uhlik with Zhu or Chinomi would result in, or otherwise render obvious, claims 13-17 at least by virtue of their dependencies from independent claim 12.

In light of the above, the Applicants submit that all the pending claims are patentable over the prior art of record. The Applicants respectfully request that the Examiner withdraw the

rejections presented in the outstanding Office Action, and pass the present application to issue. Additionally, the Examiner is invited to contact the undersigned attorney by telephone to resolve any remaining issues in the present application.

Respectfully submitted,

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May 26, 2010